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# Objective Functional Testing in Patients With Lumbar Degenerative Disc Disease

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Dear Editor:

We were delighted to read the results of the prospective study by Mobbs et al[1] on "Physical Activity Measured With Accelerometer and Self-Rated Disability in Lumbar Spine Surgery" in a recent issue of the *Global Spine Journal*. Using a commercially available accelerometer and patient-reported outcome measures (PROMs), such as the Visual Analog Scale (VAS), Oswestry Disability Score (ODI), and Short-Form-12 (SF-12) questionnaire, the authors evaluated improvement of objective and subjective function in n = 30 patients following lumbar spine surgery including laminectomy, discectomy, and fusion. Lack of correlation of the investigated PROMs with changes in the physical activity parameters (steps, distance, and calories) and the exceptional ability of the accelerometer as an objective tool to determine objective function has encouraged the authors to recommend the inclusion of objective physical activity measurements. Despite the small cohort, the authors should be congratulated for their convincing results, which hopefully will stimulate more clinical research in this field.

The authors appraised to be "the first to prospectively investigate objective physical activity measurements after lumbar spine surgery and test whether these measurements correlate with subjective functional scores." However, it is worth mentioning that we called for the need for an objective outcome measurement in spine surgery as early as in October 2014,[2] and thus introduced the Timed Up and Go (TUG) test as a measurement tool of objective functional impairment (OFI) in the context of lumbar degenerative disc disease (DDD) and its surgical treatment.[3] In short, the TUG test measures the time in seconds to stand up from a chair, walk 3 meters, turn around, walk 3 meters back, and sit down again. These physical functions are essential to perform the majority of activities of daily living. Using a stopwatch, a health care professional can easily determine the presence and degree of OFI in patients, stratified into mild, moderate, and severe OFI. Alternatively, the results can be presented as standardized age- and sex-adjusted *t* scores.[3] For the evaluation of a patient in the postoperative course, a reduction of the TUG test time of at least 3.4 seconds translated into a clinically meaningful improvement.[4] Recently, a TUG smartphone application has been developed to measure the raw TUG test times, OFI, and *t* scores in patients with lumbar DDD.

We are in full agreement with the statement made by Mobbs et al[1] that objective assessment tools should find their way into clinical research and practice. In our experience, the objective assessment adds a new dimension to the armamentarium of clinical tests for a comprehensive patient evaluation, but does not replace well-established PROMs that capture important—subjective—aspects.

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